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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,899	08/22/2001	Keiko Watanabe	500.40538X00	7412

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EXAMINER

PHAN, THIEM D

ART UNIT	PAPER NUMBER
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3729

10

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/933,899

Applicant(s)

WATANABE ET AL.

Examiner

Tim Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 and 14-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 & 14-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The amendment filed in Paper No. 9 (filed 1/16/04) has been fully considered and made of record.

#### ***Interview***

2. A telephone call was made to the office of Hung H. Bui (703-312-6600) on March 5th, 2004 to grant an interview as requested, but did not result in a date being scheduled.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-10 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt et al (US 4,683,505) hereinafter '505 in view of Kuno (US 5,572,382) hereinafter '382.

As applied to claims 1, 2, 5, 6 and 14, the '505 teaches a method for center-assembling a disk pack, which reads on all of applicants' claimed limitations, including:

- fixing a disc apparatus base on which a spindle motor (Cf. Fig. 1, element 6) is mounted;
- mounting a disc onto a hub (Cf. Fig. 2, element 37) of a spindle motor (Cf. Fig. 2, element 6) where the disc can be moved in a disc radius direction;
- providing a registration arm (Cf. Fig. 2, element 50) and a registration plunger (Cf. Fig. 2, element 58) in parallel and opposite sides of a disc (Cf. Fig. 2, element 80) relative to a center axis of the hub;
- controlling movement of the registration arm and registration plunger to center the disc (Cf. Col. 2, lines 11-17; column 4, lines 1 & 2); by
- pressing an outer circumferential edge of the disc in a direction of a center axis of the hub by a registration arm (Cf. Fig. 2, element 50; column 2, lines 11-17; column 4, lines 1 & 2);
- pressing back the outer circumferential edge of the disc in contact with the registration arm (Cf. Fig. 2, element 50 & bi-directional arrow) by a registration plunger (Cf. Fig. 2, element 58; column 4, lines 19 & 20) in an opposite direction to the center axis of the hub; and
- fixing the disc (Cf. Fig. 2, element 8) to the hub (Cf. Fig. 2, element 37) of the spindle motor (Cf. Fig. 2, element 6) by a clamp (Cf. Fig. 2, element 26), except for measuring the difference between the outer diameter of the hub and the inner diameter of the disc

and pressing back the disc to a half of an amount of tolerance between the inner diameter of the disc and the outer diameter of the hub by the registration plunger.

The '382 teaches the steps of measuring the difference between the outer diameter of the hub and the inner diameter of the disc (Cf. Fig. 4B, element Sx; column 6, lines 54 & 55) and moving to a half of an amount of gap/tolerance between the inner diameter of the disc and the outer diameter of the hub, in the +X direction side to the center axis of the hub (Cf. Fig. 4B, elements Sx & 11; column 6, lines 57 & 58) in order to balance/center the disc (Cf. Fig. 4E).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the two teachings and to apply a reverse moving in an amount of half distance of the gap (as taught by the '382) and the pressings in opposite directions that pass through the disc center by registration arms (as taught by the '505), a flat member, a curved member or a single point member or multiple-points member in order to balance/center the disc with regard to the hub.

**As applied to claims 3 and 4,** the '505 teaches a pressurizing means with registration arm and plunger (Cf. Fig. 2, elements 50 & 58) to press in opposite side and direction that passes through the center disc, at the outer circumferential edge of the disc.

**As applied to claims 7, 8 and 16,** the '505 teaches the claimed invention except for describing the springs to press the registration members (Cf. Fig. 2, elements 60 & 68 or 80 & 88) against the outer circumferential of the disc. It would have been obvious to one of ordinary

skill in the art at the time the invention was made to apply any pressing force including a spring in order to move the registration members. The '505 teaches that the registration arm sustains a bi-directional movement (Cf. Fig. 2, element 50 & bi-directional arrow) and the registration plunger sustains a pressing force (Cf. Fig. 2, element 68; column 4, lines 19 & 20).

**As applied to claims 9, 10 and 15**, the '382 teaches the claimed invention except for describing the displacement gauge to monitor the amount of gap/distance the disc is moved (Cf. Applicants' Disclosure, page 11, lines 17 & 18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a displacement gauge or the like since an artisan would provide a displacement gauge to measure gap distance.

### ***Response to Arguments***

5. Applicants' arguments filed 1/16/04 have been fully considered but they are not persuasive for the following reasons:

Applicants recite *inter alia* "... circumferential edge ..." on all claims, the Patent Office's position, as stated in the preceding Action, was and continues to be that since the '505 teaches the pressings are carried out at the outer circumferential edge of the disc (Cf. Fig. 2, elements 50 & 58) and "... flat member having a flat surface ..." (Cf. All claims), it would be obvious to one of ordinary skill in the art to consider a pressing member to be the registration arm or plunger

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(Cf. Fig. 2, elements 50 & 58) or a flat member with a flat surface or a curved surface member or a single point member or multiple points members since it is known in the art that the disc is to be pressed at opposite and parallel directions that must pass through its center (Cf. Col. 2, lines 11- 18; 4, lines 1-15), thus any member type designed to press the disc in parallel, at opposite ends of the disc and in a direction passing through the disc center won't have any possibility to skew the angle movement of the disc.

Furthermore the Office saith not.

### *Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tim Phan whose telephone number is 703-605-0707. The examiner can normally be reached on Monday - Friday, 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter VO can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.



Tim Phan  
Examiner  
Art Unit 3729



CARL J. ARBES  
PRIMARY EXAMINER

tp  
March 24, 2004